

EXHIBIT 2

Rebuttal Expert Report of Dr. Loren Collingwood

Loren Collingwood

2023-02-16

Executive Summary

I previously provided a report in this matter, dated November 30, 2022. I refer to that report as the “Collingwood November 2022” report. Since then, the defense expert, Dr. M.V. (Trey) Hood III, provided his response report. This report is my rebuttal.

Key Findings:

- Dr. Hood incorrectly characterizes LD-9 as a Native American opportunity district because he fails to account for turnout differentials that make white voters a substantial majority of the usual electorate in the district.
- Dr. Hood’s Gingles III analysis is methodologically flawed because (1) he equally weighs all elections even though some are significantly more probative than others, (2) he includes election results from packed subdistrict 9A in his combined analysis but excludes election results from cracked District 15 (3) he does not address subdistrict 9B alone, and (4) he fails to account for special circumstances that make the 2018 elections of little or no probative value.
- Dr. Hood’s conclusion that LD-15 satisfies Gingles II and III but not Gingles I because the existing LD-15 is not majority NVAP is methodologically flawed. Gingles I looks to the possibility of an alternative majority minority district, not whether the challenged district itself is majority minority.
- Dr. Hood’s analysis of Plaintiffs’ Demonstrative Plans is flawed. The demonstrative districts satisfy population deviation goals, and are more compact than other adopted districts and districts that the Supreme Court has concluded to be reasonably compact for VRA purposes. Dr. Hood misreports the number of county splits in the enacted plan, and Demonstrative Plan 1 LD-9 splits the same number of counties as enacted LD-15 and the state house version of enacted LD-9. The demonstrative plan performs comparably or better on other districting criteria as well.

Background and Qualifications

I am an associate professor of political science at the University of New Mexico. Previously, I was an associate professor of political science and co-director of civic engagement at the Center for Social Innovation at the University of California, Riverside. I have published two books with *Oxford University Press*, 40 peer-reviewed journal articles, and nearly a dozen

book chapters focusing on sanctuary cities, race/ethnic politics, election administration, and racially polarized voting. I received a Ph.D. in political science with a concentration in political methodology and applied statistics from the University of Washington in 2012 and a B.A. in psychology from the California State University, Chico, in 2002. I have attached my curriculum vitae, which includes an up-to-date list of publications.

In between my B.A. and Ph.D., I spent 3-4 years working in private consulting for the survey research firm Greenberg Quinlan Rosner Research in Washington, D.C. I also founded the research firm Collingwood Research, which focuses primarily on the statistical and demographic analysis of political data for a wide array of clients, and lead redistricting and map-drawing and demographic analysis for the Inland Empire Funding Alliance in Southern California. I am the redistricting consultant for the West Contra Costa Unified School District, CA, independent redistricting commission in which I am charged with drawing court-ordered single member districts.

I served as a testifying expert for the plaintiff in the Voting Rights Act Section 2 case *NAACP v. East Ramapo Central School District*, No. 17 Civ. 8943 (S.D.N.Y.), on which I worked from 2018 to 2020. In that case, I used the statistical software eiCompare and WRU to implement Bayesian Improved Surname Geocoding (BISG) to identify the racial/ethnic demographics of voters and estimate candidate preference by race using ecological data. I am the quantitative expert in *LULAC vs. Pate (Iowa)*, 2021, and have filed an expert report in that case. I am the BISG expert in *LULAC Texas et al. v. John Scott et al. (1:21-cv-0786-XR)*, 2022. I filed two reports and have been deposed in that case. I am the RPV expert for Fair Maps plaintiff in *LULAC v. Abbott*. I have filed three reports and have been deposed in that case. I was the RPV expert for the plaintiff in *East St. Louis Branch NAACP, et al. vs. Illinois State Board of Elections, et al.*, having filed two reports in that case. I am the Senate Factors expert for plaintiff in *Pendergrass v. Raffensperger (N.D. Ga. 2021)*, having filed a report in that case. I was the RPV expert for intervenors in *Johnson, et al., v. WEC, et al., No. 2021AP1450-OA*, having filed three reports in that case. I was the RPV expert for plaintiff in *Faith Rivera, et al. v. Scott Schwab and Michael Abbott*. I filed a report, was deposed, and testified at trial in that case. I served as the RPV expert for the intervenor in *Walen and Henderson v. Burgum and Jaeger No 1:22-cv-00031-PDW-CRH*, where I filed a report and testified at a preliminary injunction hearing. I was the RPV expert in *Lower Brule Sioux Tribe v. Lyman County* where I filed a report and testified at trial. I am the RPV expert for plaintiff in *Soto Palmer et al. vs. Hobbs et al.* and have filed a report and been deposed. I am the RPV expert in *Dixon v. Lewisville Independent School District No. 4:22-cv-00304*, and have filed a report.

LD-9 is not a functioning Native American opportunity district

Dr. Hood argues that white-preferred candidates do not prevail more often than do Native-preferred candidates in the full District 9 and thus Gingles III is not triggered. I disagree for a variety of reasons.

To begin, Dr. Hood asserts that because LD-9 is over 50% Native American Voting Age Population (NVAP) it is definitionally a minority opportunity district – meaning that Native

voters have the ability to elect candidates of choice. But whether a district functions as a minority opportunity district depends upon more than demographics. One must account for variation in turnout by race, the degree of racially polarized voting, and importantly place greater weight on probative contests.

Typically, minority populations turn out to vote at lower rates than do white voters – due to their historical exclusion in the political process. In the South and around the country, white legislatures implemented laws to bar and/or limit minorities from voting. The literature is stacked on this but see Zelden (2004). The same was true for Native American voters across the country. This is an historical fact and undisputed in the literature.

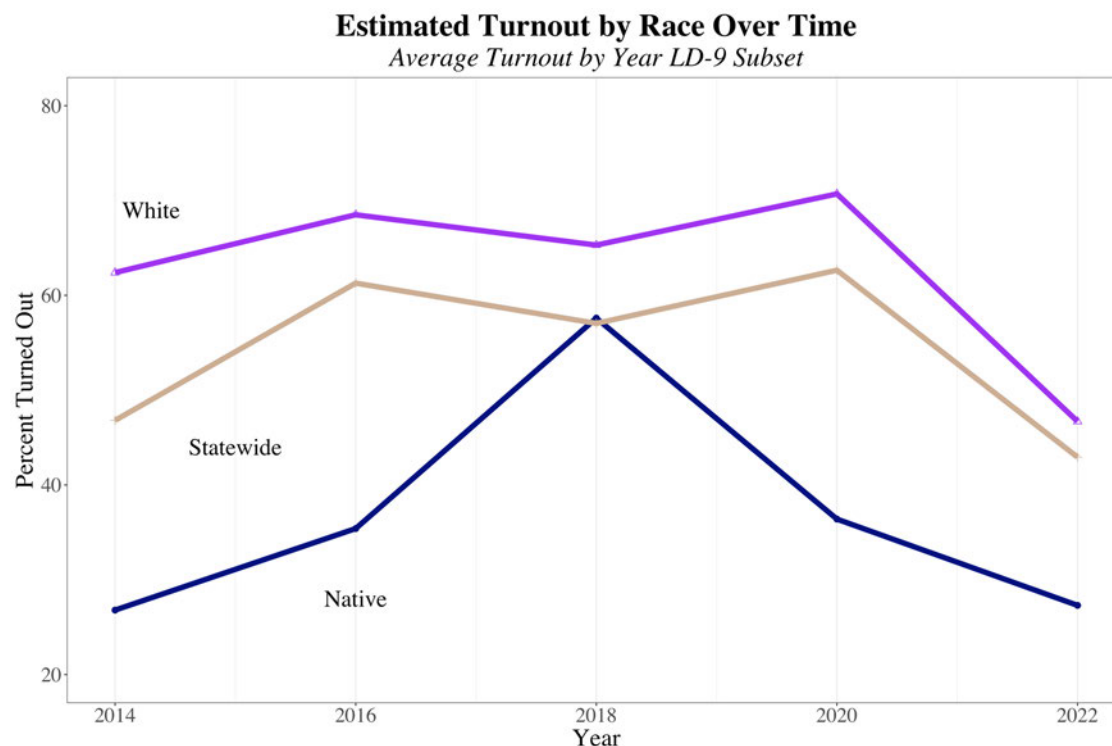
Unfortunately, these imbalances in turnout by race continue through today. For instance, in the 2020 general election, according to the Current Population Survey (CPS), non-Hispanic whites turned out at 70.9%, Blacks at 62.6%, Asians at 59.7%, and Hispanics at 53.7% (see data provided for reference). The CPS does not provide readily available estimates for Native turnout; therefore, I conducted my own analysis of Native vs. white turnout in LD-9 over the past five election cycles, which demonstrates the flaw in Dr. Hood’s opinion that LD-9 is a Native American opportunity district because it is bare majority Native American VAP.¹

Using the same ecological inference methods as I used to estimate vote choice by race, I estimated voter turnout by race. The method is very similar to the RPV method, except I swap in voter turnout (total vote / total VAP) for candidate vote.

I then calculate the average turnout across each year’s respective contests by racial group. I also gathered turnout data from the Secretary of State’s website – which is readily available. Next, I plotted the data in a line graph, which conveys average turnout by race by year. These data rely on my EI estimates, but the RxC estimates are almost identical. The white turnout estimates are in purple, the Native American turnout estimates in navy blue, and statewide turnout numbers in peach.

¹ In his report, Dr. Hood states that LD-9 is 51.7% Native VAP, using the single-race metric (*i.e.*, only those who identify as exclusively Native American). The figure is slightly different using the Census figure that the Supreme Court in *Georgia v. Ashcroft* indicated should be normally used in vote dilution cases (*i.e.*, those who identify as exclusively and part Native American); the figure is 54.5% under that measure. Because there is no dispute a majority-NVAP district can be drawn, the distinction is not particularly important in this case.

Figure 1. Voter Turnout by Race, 2014-2022 contests subset to LD-9. Statewide estimate is statewide turnout reported from ND Secretary of State.



Two points immediately emerge. First, white voters always cast ballots at significantly higher rates than do Native voters – usually in the neighborhood of 20-30 percentage points. Second, the 2018 election is an extreme anomaly. In that year, I place the Native turnout rate at 57.6% – which is higher than the statewide estimate of 57%. I have studied and conducted many turnout analyses using this method in areas with large shares of Native American eligible voters. In all the many elections in different jurisdiction that I have studied, I have never seen a Native American turnout number that begins to approach 60% in a federal, state, or local contest. Rather, the figures often hover around 30% – which is in line with my estimates in every other election year in LD-9.

This is anomalous for another reason—2018 was a midterm election. It is exceedingly unusual for any group to turn out at a higher rate in a midterm election than in a presidential election—let alone to have turnout that is over 50% higher in the midterm than in the presidential election. The graph below illustrates the anomaly; white turnout in LD-9 and statewide turnout was slightly higher in the 2016 and 2020 presidential elections than in the 2014, 2018, and 2022 midterm elections. That pattern was true for Native American voters in LD-9 for the 2014 and 2022 midterm elections versus the 2016 and 2020 presidential elections, but then was strikingly inverted for the 2018 midterm election. I address this data further below in the special circumstances discussion.

With these turnout estimates, I next estimate the Native American and white composition of the electorate for each election year.² To do so I multiply each group's share of the voting age population by each group's estimated turnout rate. For the 2014 election, 67% of LD-9's electorate was white and 33% was Native American. For the 2016 election, 63% of LD-9's electorate was white and 37% was Native American. For the 2018 election, 50% of LD-9's electorate was white and 50% was Native American. For the 2020 election, 63% of LD-9's electorate was white and 37% was Native American. And for the 2022 election, 60% of LD-9's electorate was white and 40% was Native American.

This illustrates the flaw in Dr. Hood's statement that LD-9 is necessarily a minority opportunity district merely because it has a bare majority NVAP. The usual electorate in the district has a substantial white majority, and even with unprecedented Native American turnout in 2018, that group still did not constitute a majority of the electorate.

In this regard, it is informative to evaluate LD-9 in the context of the other majority Native American state legislative districts across the country. There are 31 such districts, located in North Dakota, South Dakota, Montana, Wyoming, New Mexico, Arizona, and Alaska. Counting any person who identifies as Native American, *see* footnote 1, these districts range from 53.4% NVAP on the low end to 85.8% NVAP on the high end. The mean NVAP for a Native American majority legislative district in the country is 68.1% and the median Native American majority legislative district in the country has an NVAP of 66.7%.

Prior to the 2021 redistricting—when ND-9 was exclusively contained within Rolette County—its NVAP was 74.4%, slightly above the national mean and median. The 2021 redistricting drastically reduced that figure by twenty percentage points. Now, the enacted version of SD-9 has the second lowest NVAP of any majority Native American legislative district in the country. Meanwhile, subdistrict 9A has the fifth highest NVAP percentage in the nation (79.8%). By contrast, Plaintiffs' Demonstrative District 1 has an NVAP of 66.1%—nearly identical to the median district among the nation's 31 majority Native American legislative districts.

This national context—together with the turnout and actual electoral composition data of the district shown above—illustrates why LD-9 is not an effective Native American opportunity district and why Dr. Hood's conception is incorrect.

Dr. Hood's Gingles III Analysis Is Methodologically Flawed

Dr. Hood summed all the election data I included in my report (including by adding together the results for Districts 9, 9A, and 9B), equally weighed each election, and concluded that white voters do not usually defeat the candidates of choice of Native

² I use the more conservative NVAP estimate of 51.7% proffered in Dr. Hood's report and relied on by the state legislature.

American voters in LD-9. There are a number of serious methodological flaws in Dr. Hood's analysis and approach, which I address in turn below.

A. Equally Weighing the Elections Is Methodologically Incorrect.

First, it is methodologically flawed to equally weigh elections when conducting a Gingles III analysis. It is well established in court opinion and in the academic literature—including in literature written by Dr. Hood that he references in his report³—that certain elections are more probative than others in ascertaining whether white voters usually defeat the minority voters' preferred candidates. Endogenous elections (here, elections for the state legislature) are the most probative, and exogenous elections (*e.g.*, for President, Governor, U.S. Senator, etc.) are less probative. National and statewide candidates often are better funded and have elections decided on a different set of issues and circumstances than elections for lower office. In addition, recent elections are more probative than past elections. Finally, elections featuring a candidate of the race or ethnicity of the group bringing the Section 2 challenge are more probative than those featuring two white candidates.

As I discussed in my initial report, in each category of election that is considered most probative, there is a clear and compelling pattern of white voters usually defeating Native American voters' candidates of choice in District 9.

Endogenous Elections: The November 2022 elections were the first conducted under the new plan. Incumbent Native American Senator Richard Marcellais lost to his white opponent in District 9. This is the single most probative contests because it has all three probative characteristics—it is (1) endogenous, (2) the most recent, and (3) features a Native American candidate as the candidate of choice of Native American voters.

It bears noting that the defeat of Senator Marcellais marks the first time since the 1988 election—35 years ago—that a member of a North Dakota Tribe has not been elected to the state senate from District 9. From the election in District 9 of Daniel F. Jérôme in 1990 to Les. J. LaFountain in 1994, Dennis Bercier in 1998, and Richard Marcellais in 2006, a member of a North Dakota Tribe has served in the state senate—until 2022 under the new district lines.⁴ Statewide, the total NVAP share of the population grew from 5.1% to 5.9% from the 2010 to the 2020 Census. Proportionally, that would equate to 3 state senate seats and 6 state house seats. Following the 2022 elections, Native American candidates of choice are elected to 0 state senate seats and 2 state house seats.

³ M.V. Hood III, Peter A. Morrison, & Thomas M. Bryan, *From Legal Theory to Practical Application: A How-To for Performing Vote Dilution Analysis*, Social Science Quarterly, Vol. 99, No. 2 (2018).

⁴ N.D. Legislature, <http://www.ndlegis.gov/files/resource/library/dakota-lawmakers.pdf>; <https://ndlegis.gov/biography/dennis-bercier>; <https://www.ndlegis.gov/biography/les-j-la-fountain>; <https://www.metismuseum.ca/resource.php/14232>.

Similarly probative is the defeat of incumbent state representative Marvin Nelson—the Native American candidate of choice (who was also the candidate of choice when he ran for Governor in 2016) in subdistrict 9B. This race is both endogenous and the most recent.

Most Recent Elections: The Native American candidates of choice lost all 8 elections in 2022 in District 9. That is a 100% block rate. If we add the 2020 elections, then the Native American candidates of choice lost 10 of 14 elections. That is a 71% block rate.

Elections Featuring Native American Candidates: In the five elections featuring Native American candidates, the Native American candidates lost three, for a block rate of 60%.

Across the three most probative categories of elections, white voters' preferred candidates defeat Native American voters' preferred candidates at rates of 60%, 71%, and 100%. This is a clear Gingles III pattern.

Dr. Hood's approach of simply summing together all the election contests and equally weighing them—particularly where, as here, the most probative elections (of which there is a robust set of data spanning several election cycles) point clearly in the opposite direction of his conclusion—is methodologically incorrect.

B. Including Subdistrict 9A in the Gingles III Analysis is Methodologically Incorrect.

In Table 1 of his report, Dr. Hood added together all elections in Districts 9, 9A, and 9B to report that the Native American-preferred candidate was defeated in 38.2% of elections in the challenged districts, and thus Gingles III was not satisfied in his view.

But this is not the correct analysis. District 9A has a NVAP of 79.8%, *see* note 1, which is the fifth largest NVAP among all 31 Native American majority state legislative districts in the country. Of course white voters' preferred candidates do not usually—or ever—defeat Native American voters' preferred candidates in District 9A. It does not make sense to analyze Gingles III in the context of packed districts, but instead it is focused on districts where there is insufficient minority voting population to overcome white bloc voting. A map illustrating the cracking and packing of Native American voters across LD-9A, LD-9B, and LD-15 is attached as Appendix A.

When District 9 and 9B are summed without District 9A, then Native American preferred candidates win only 30 of 72 elections. This is a block rate by white preferred candidates of 58%.

The most sensible approach, however, is to sum District 9 and District 15 together, because the focus of the claim is on how the configuration of district lines in the region reduced from three to one the number of Native American preferred legislators elected. When that is done—even if all elections are weighed equally (which is not the correct approach), Native American preferred candidates lose 42 of 66 elections, for a block rate by white preferred candidates of 64%.

C. Dr. Hood Does Not Address District 9B.

Dr. Hood does not address District 9B at all in his analysis, other than to include it in his combined analysis of District 9, 9A, and 9B. But 9B is alleged to be a cracked district, and Gingles III is clearly established—Native American preferred candidates lost 81% of tested elections.

D. Dr. Hood Does Not Account for the Special Circumstances of the 2018 Election Cycle.

Dr. Hood's analysis is also methodologically flawed because he does not account for the special circumstances of the 2018 election cycle. As I discussed in my initial report and as the turnout data shows above, the 2018 election in North Dakota—including specifically in LD-9—was unlike any other election in that the Native American turnout rate exceeded the statewide rate and was over 50% higher than Native American turnout in the presidential elections. In my professional career, I have never seen an election in which Native American turnout even came close to being this high, and it runs in stark contrast to the usual trend of turnout increasing in presidential elections. There clearly was an overwhelming backlash to the voter ID law and the decision of the U.S. Supreme Court lifting the injunction on that law, aided by an intense get-out-the-vote effort that received national attention at the time.⁵ This turnout pattern is not seen in prior or subsequent elections.

Given the stark departure from the ordinary electoral conditions, it would be appropriate to entirely disregard the 2018 elections in assessing whether candidates supported by white voters usually defeat Native American preferred candidates in LD-9. At the very least, the 2018 elections should be given very little weight. Not only are they skewed by extremely unusual circumstances, but there are no endogenous contests in the new district lines and no Native American candidates on the ballot that year.

Notably, if the 2018 elections are excluded or given little weight, then in the most recent three election cycles (2022, 2020, and 2016) the Native American preferred candidates lost in 12 of 21 elections, for a block rate by white preferred candidates of 57%. Again, that is without affording more probative value to the endogenous, most recent (2022), and racially contested elections. This is a clear pattern of Gingles III across these three election cycles in LD-9.

Dr. Hood's LD-15 Analysis Misapprehends Gingles I.

Dr. Hood's analysis of LD-15 misapprehends Gingles I. On page 4 of his report, Dr. Hood concedes that Gingles II and III are satisfied in LD-15, but he says that Gingles I is not

⁵ Roey Hadar, *North Dakota reservations see record voter turnout amid fears of suppression*, ABC News, <https://abcnews.go.com/Politics/north-dakota-reservations-record-voter-turnout-amid-fears/story?id=59038845> (Nov. 7, 2018).

because LD-15 is not majority NVAP. But Gingles I is about whether an *alternative* district that is majority-minority can be drawn. It is not about whether the *challenged* district is majority minority. Plaintiffs' demonstrative districts, which include Spirit Lake (currently in LD-15), satisfy the Gingles I majority NVAP requirement.

Plaintiffs' Demonstrative Districts

In his report, Dr. Hood evaluates Plaintiffs' two demonstrative districts with respect to their adherence to a number of traditional districting criteria, including population deviation, compactness, communities of interest, and core retention. He contends that the demonstrative districts "degrade" on these criteria compared to enacted LD-9. His analysis is flawed with respect to each criterion he considers.

I will focus my discussion on Plaintiffs' Demonstrative District 1 to avoid repetition, but most of this discussion applies equally to Demonstrative District 2.

A. Population Deviation

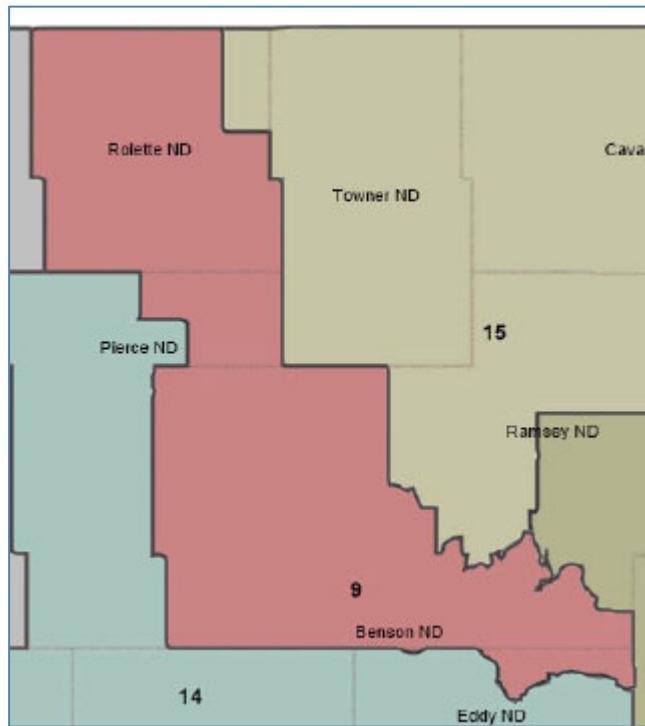
Dr. Hood notes that Plaintiffs' Demonstrative Plan 1 LD-9 has a higher population deviation (+3.14%) than does enacted LD-9 (-2.52%). This is not a degradation of traditional district criteria. The North Dakota legislature adopted a goal that its legislative plan have an overall population deviation below 10%, and expressed no preference for approaching 0. Indeed, 23 of the 47 legislative districts have a higher population deviation than Plaintiffs' Demonstrative Plan 1.

B. Compactness

Dr. Hood reports the compactness score of Plaintiffs' Demonstrative Plan 1 LD-9 for three compactness metrics: Reock (.25), Polsby-Popper (.22) and Schwartzberg-Adjusted (.28). He notes that these scores would rank 45th, 44th, and 45th respectively among North Dakota's 47 state senate legislative districts, and that enacted LD-9 scores higher. Dr. Hood's compactness discussion is flawed for several reasons.

1. The Effect of Water Boundaries

First, he does not account for the effect that natural boundaries, like rivers and lakes, have on compactness scores. Plaintiffs' demonstrative LD-9 contains all of Benson County, which has a squiggly line border along Devil's Lake, as well as the portion of Eddy County that is within the Spirit Lake Reservation—bounded by the Sheyenne River. The district is shown below and the full map is included in Appendix F.

Plaintiffs' Demonstrative Plan 1 LD-9

These types of water boundaries have the effect of depressing mathematical compactness scores, like those reported by Dr. Hood. This is most acutely the case with perimeter-based scores, like the Polsby-Popper and Schwartzberg scores, but also affects the area-based Reock score by reducing the area of the district compared to a straight line.

This is aptly illustrated by the other legislative districts enacted by the legislature that have similar or lower compactness scores than Plaintiffs' demonstrative LD-9. In particular, LD-18 and LD-34 have lower Reock scores than Plaintiffs' Demonstrative Plan 1 LD-9. LD-35 and LD-46 have Reock scores that are 0.01 and 0.02 higher than Plaintiff's district. LD-34 and LD-46 have Polsby-Popper scores that are lower than Plaintiffs' Demonstrative Plan 1 LD-9, while LD-18 has the same Polsby-Popper score as Plaintiffs' LD-9. These districts are shown below, and are attached as Appendix B, C, and D. A statewide map of the enacted plan is attached as Appendix E.

Enacted North Dakota Legislative Plan Districts



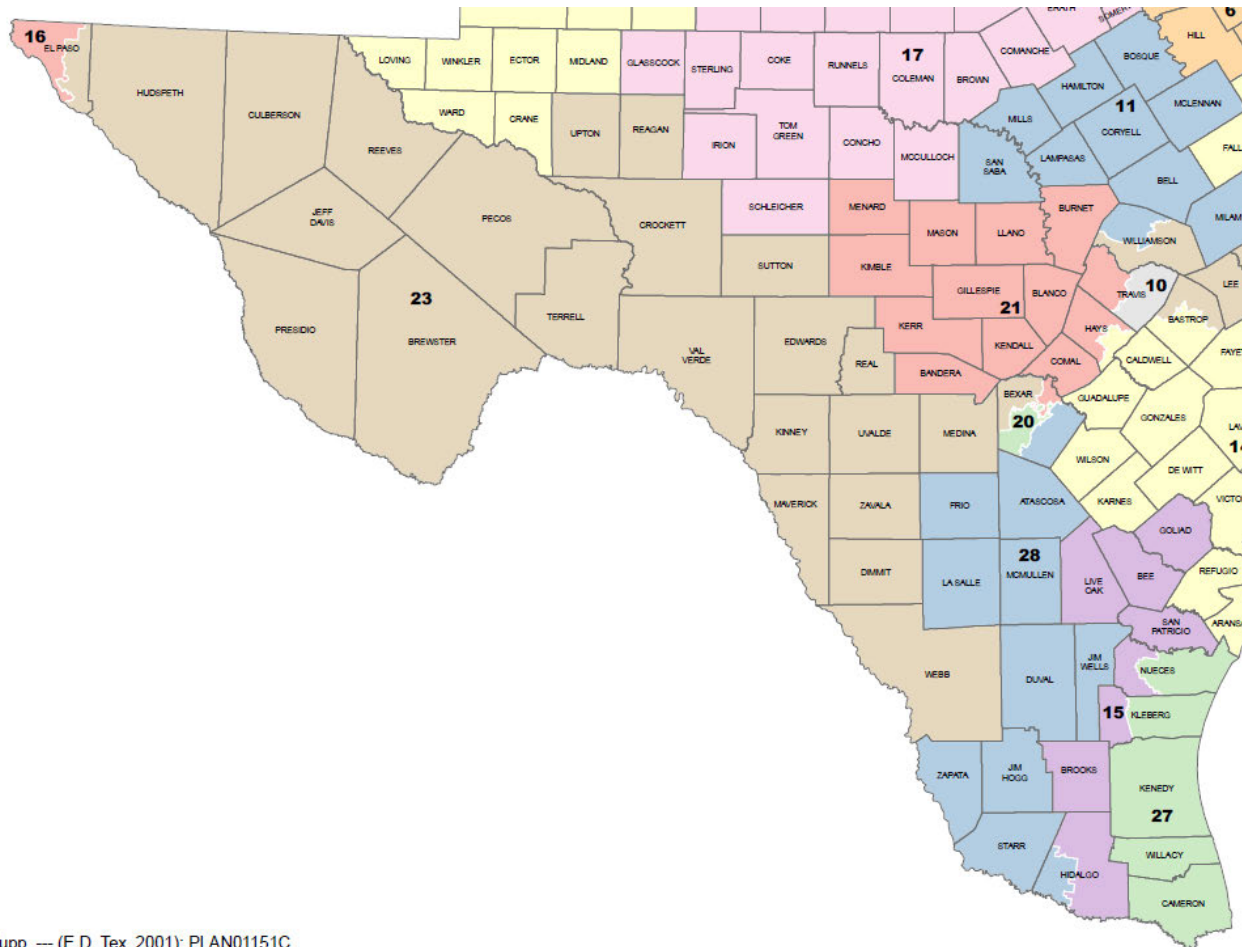
LD-18 in Grand Forks and LD-46 in Fargo are bordered by the Red River of the North and LD-34 is bordered by the Missouri River. While LD-35 is not bordered by water, it has a nearly equal Reock score to Plaintiffs’ Demonstrative Plan 1 LD-9. In his deposition, Dr. Hood acknowledged that all these districts were reasonably or sufficiently compact, and one can tell from these images that relying on mathematical compactness scores alone for districts bounded by water—the adherence to which is itself a traditional districting criteria—can obscure their compactness.

2. Plaintiffs’ Demonstrative Plans Are Reasonably Compact Compared to Districts Deemed Reasonably Compact for VRA Purposes by the Supreme Court.

To assess whether a proposed district is reasonably compact for purposes of Gingles I, it is useful to consider districts that the U.S. Supreme Court has deemed to be compact for purposes of Gingles I. In the 2006 case *LULAC v. Perry* the Supreme Court ruled that the congressional redistricting plan for Texas’s 2002 elections (“Plan 1151C”) contained six “reasonably compact” Latino opportunity districts in south and west Texas.

This region of Texas in Plan 1151C is shown below. The six “reasonably compact” Latino opportunity districts the Supreme Court considered were Districts 15, 16, 20, 23, 27, and 28.

Texas Plan 1151C



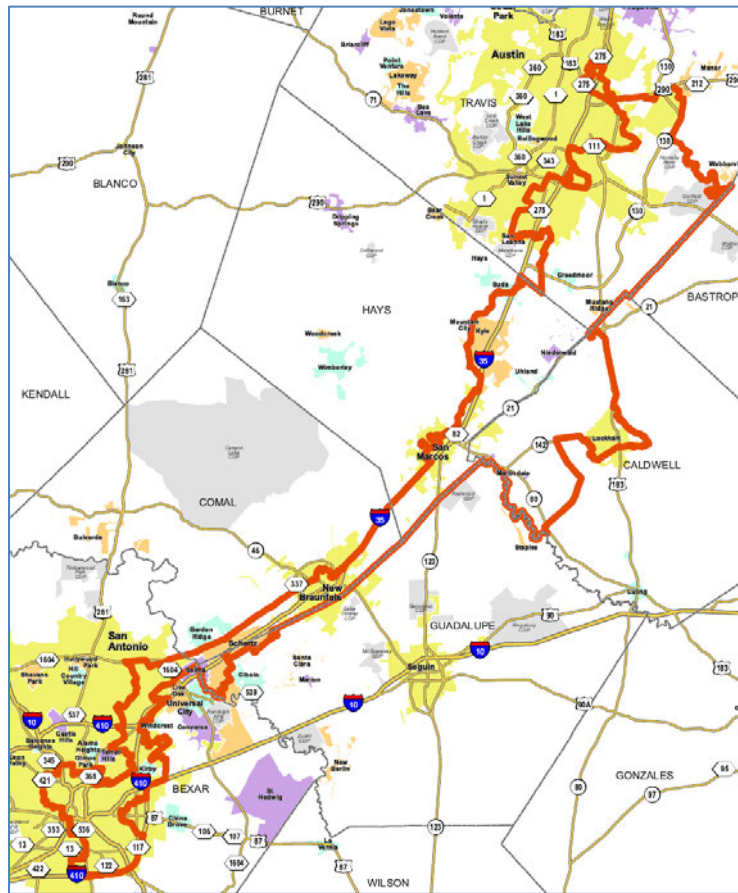
iupp. — (E.D. Tex. 2001); PLAN01151C

In this Plan, District 15 had a Reock score of .20 and a Polsby-Popper score of .12, District 16 had a Reock score of .34 and a Polsby-Popper score of .26, District 20 had a Reock score of .35 and a Polsby-Popper score of .12, District 23 had a Reock score of .23 and a Polsby-Popper score of .16, District 27 had a Reock score of .33 and a Polsby-Popper score of .23, and District 28 had a Reock score of .27 and a Polsby-Popper score of .18.

Of these Texas districts deemed by the Supreme Court to be reasonably compact for purposes of the VRA, Districts 15 and 23 have lower Reock scores than Plaintiffs' Demonstrative Plan 1 LD-9 and Districts 15, 20, 23, and 28 have Polsby-Popper scores lower than Plaintiffs' Demonstrative Plan 1 LD-9.

More recently, the Supreme Court ruled in 2018 in the case *Abbott v. Perez* that Texas had not engaged in racial gerrymandering with respect to the version of congressional district 35 it enacted in 2013 (Plan C235) because the legislature had good reasons to believe Section 2 of the VRA required a Latino opportunity district stretching along I-35, with Latino populations on either end of the district in San Antonio and Austin. That district is shown below.

Texas Plan C235 District 35

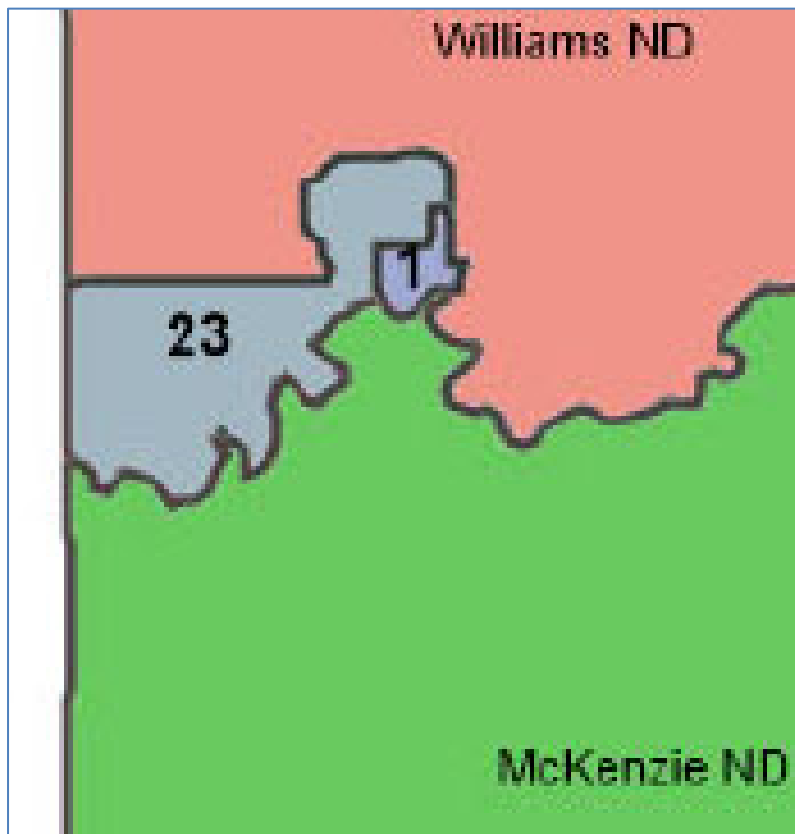


District 35 had a Reock score of .10 and a Polsby-Popper score of .05, substantially lower than Plaintiffs Demonstrative Plan 1 LD-9.

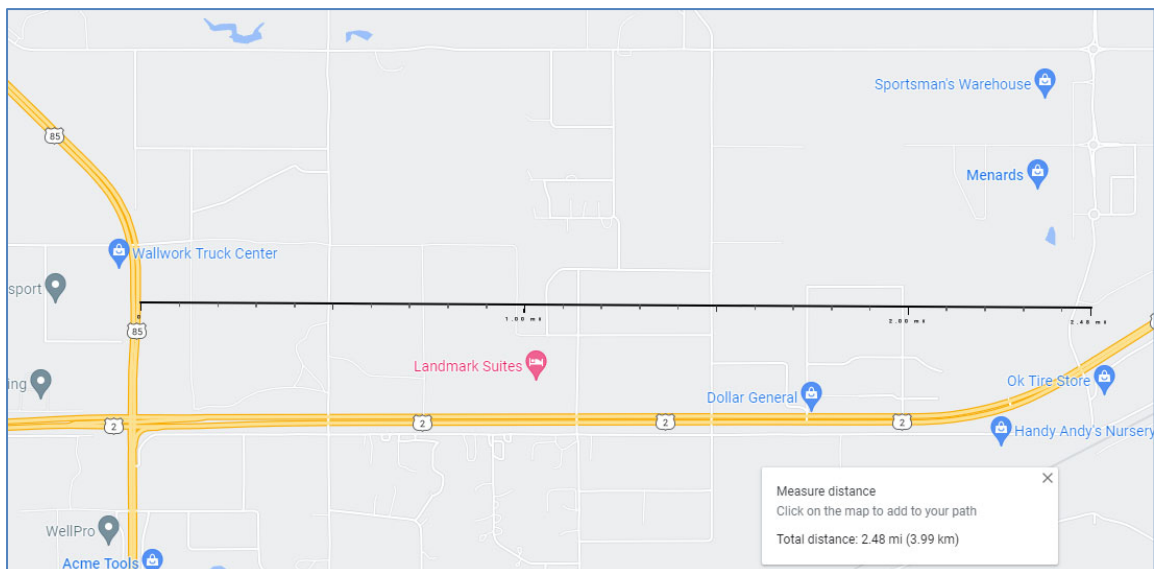
3. “Land Bridge”

Dr. Hood also says that Plaintiffs’ Demonstrative Plan 1 LD-9 contains a “land bridge”—the portion of Pierce County contained in the district between Rolette and Benson Counties. The “land bridge” to which Dr. Hood refers is a whole voting precinct from Pierce County. That Pierce County precinct is larger than a number of other districts’ connecting features across the state (as well as Texas CD35 shown above and approved by the Supreme Court). Indeed, the Pierce County precinct at issue spans 180 square miles and is itself larger than a majority of other districts in the plan (24 of the 45 non sub-district districts = 53%). For example, LD-23 in northwestern North Dakota has two sections connected by a much narrower “land bridge” that is just 2.5 miles wide and that split a then-existing Williams County precinct:

North Dakota LD-23



Distance Across LD-23 "Land Bridge"

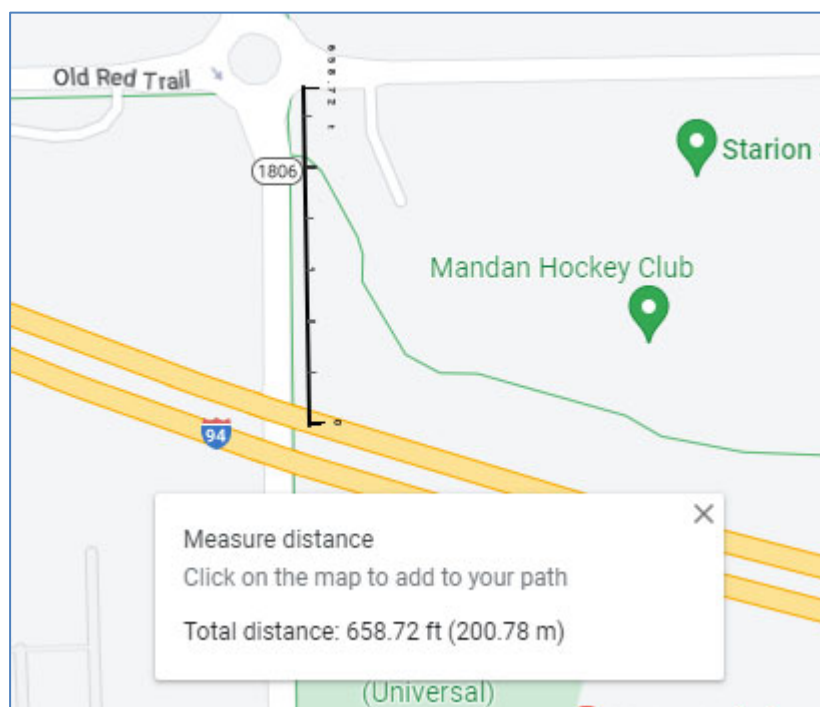


District 31, shown below, is a larger district that stretches from Mandan to the South Dakota border, but includes a narrow incursion through Mandan to the Missouri River that is just 659 feet across and likewise involved splitting then-existing voting precincts:

North Dakota Enacted LD-31



District 31 “Land Bridge” Distance



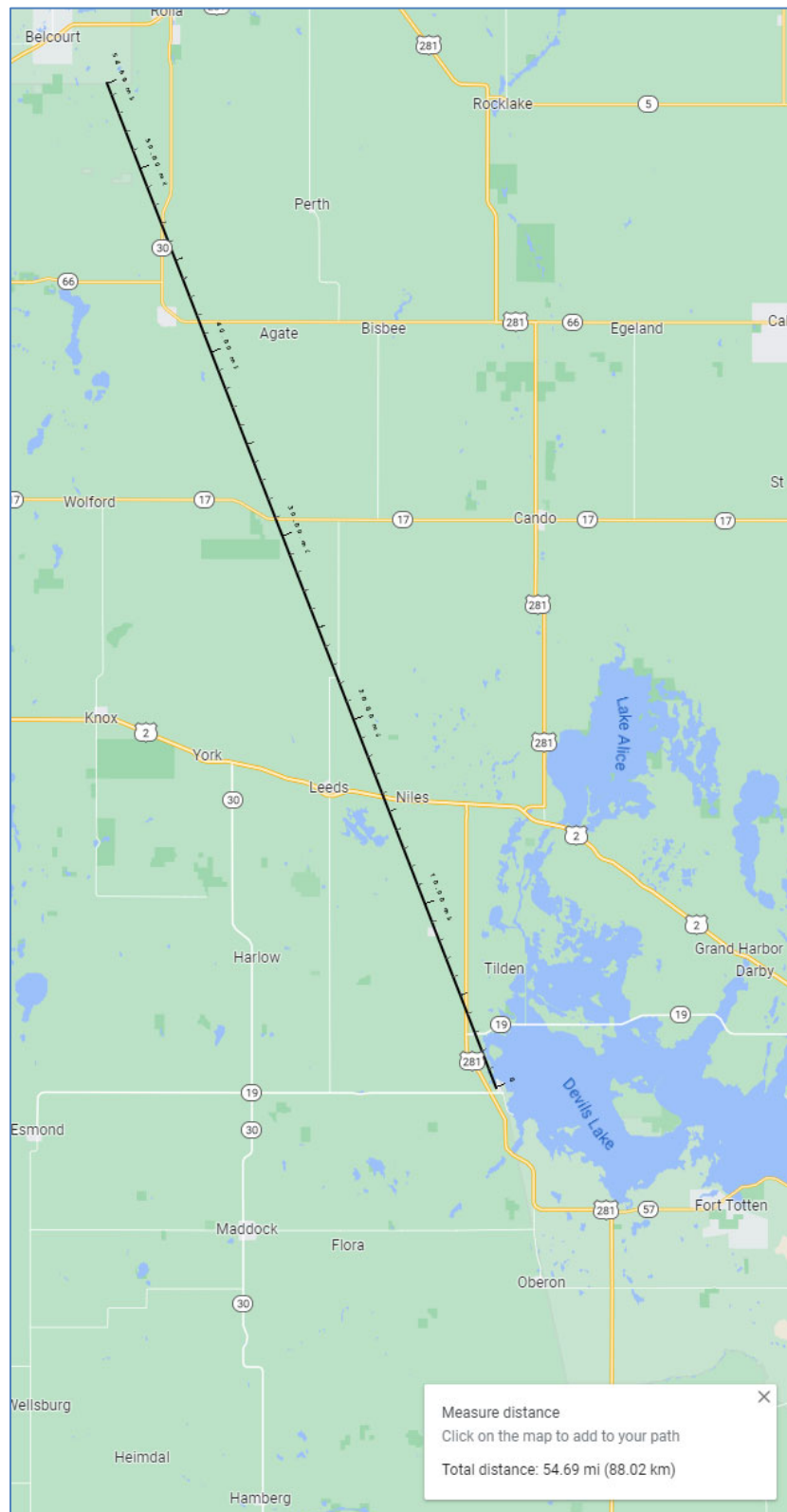
Notably, adherence to voting precincts is a generally acknowledged traditional districting criteria, and Plaintiffs’ Demonstrative Plan 1 contains no split precincts.

4. Distance

Dr. Hood observes that Plaintiffs’ Demonstrative Plan 1 LD-9 includes two Native American reservations that are 77 miles apart “[c]entroid to centroid” (Hood Report at 10). But because of significant population dispersion in rural North Dakota, geographically large districts are a necessity.

First, the centroid-to-centroid measurement overstates the distance. The two reservations are 55 miles apart, as shown below:

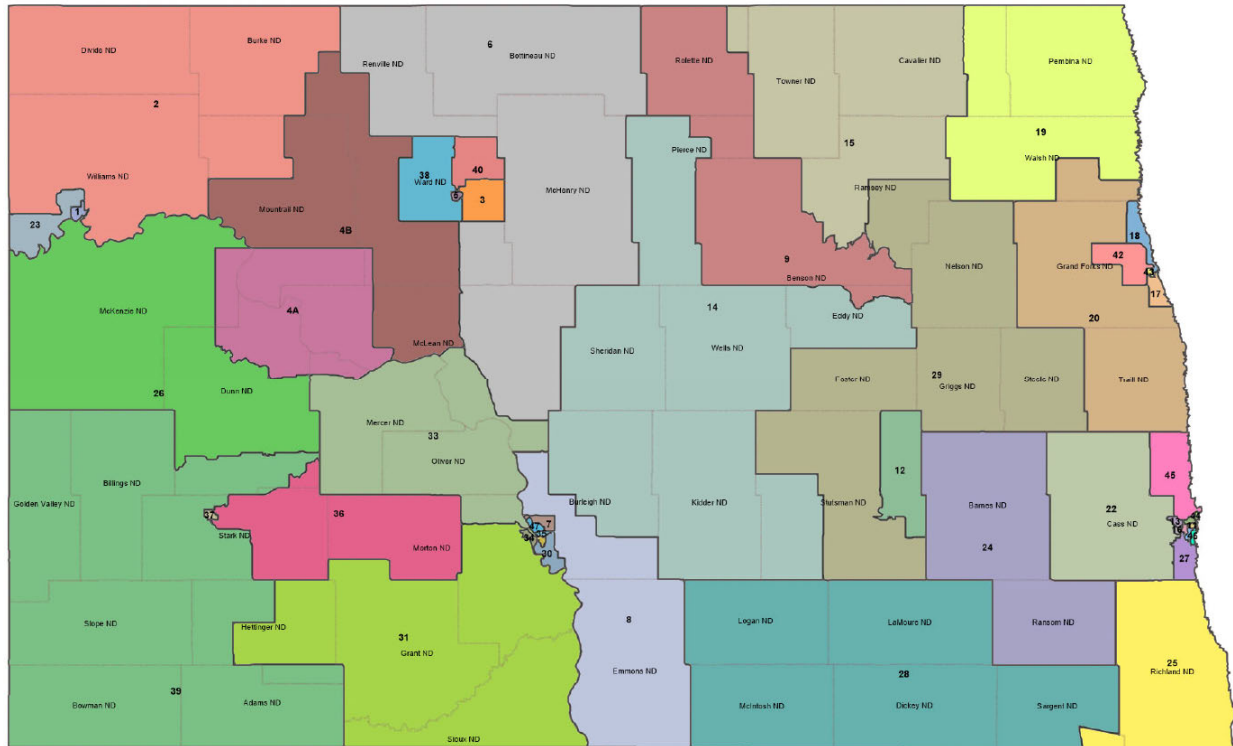
Distance Between Turtle Mountain and Spirit Lake Reservations



Second, enacted LD-9 spans a similar distance east to west as Plaintiffs' demonstrative LD-9 does north to south. Indeed, Rolette County is closer to Benson County (which Plaintiffs' demonstrative plan pairs with it) than it is to Cavalier County (which the enacted plan reaches to include in LD-9).

Moreover, as the statewide map of Plaintiffs' Demonstrative Plan 1 shows, a number of the enacted plan's districts are larger in geographic size than Plaintiffs' demonstrative LD-9:

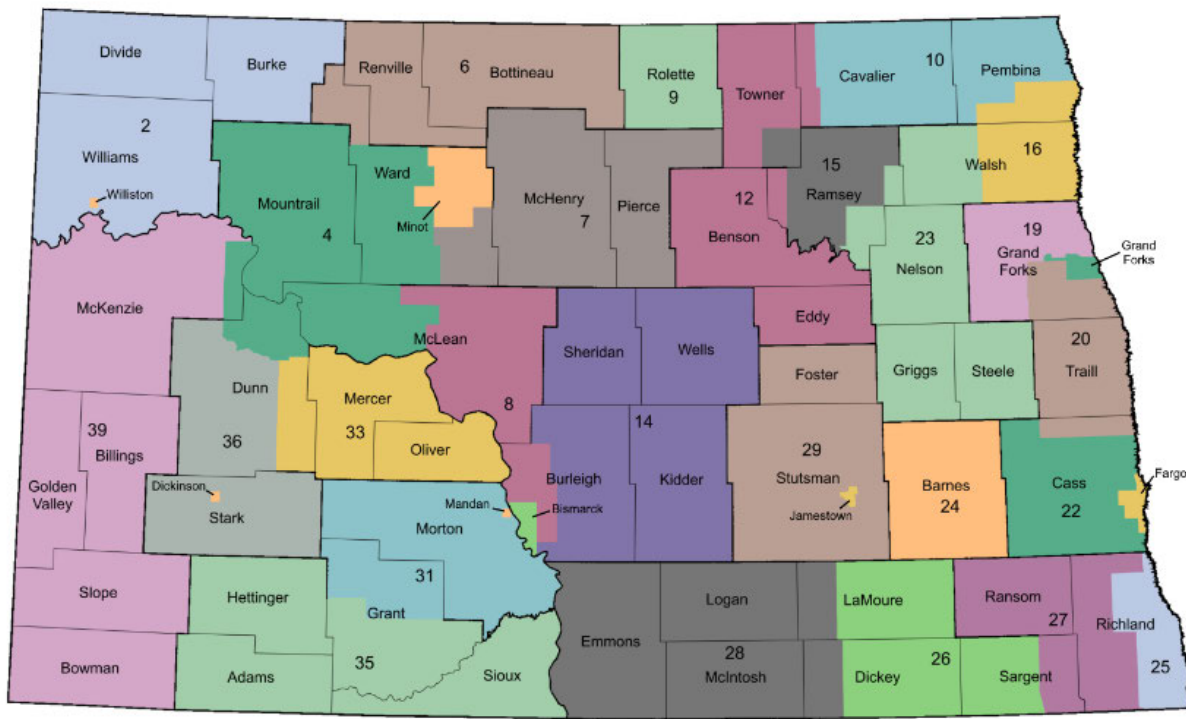
Plaintiffs' Demonstrative Plan 1



Finally, it is noteworthy that Plaintiffs' Demonstrative Plan 1 LD-9 is similar in its configuration to the 1993-2002 version of LD-12, shown below.⁶ That district's northern section is essentially the mirror image of Plaintiffs' proposed district, and illustrates the legislature's prior approval and the history of the type of north-south district configuration in this region proposed by Plaintiffs in this case.

⁶ N.D. Legislature, Historical Districts, <https://www.ndlegis.gov/districts/1993-2002>.

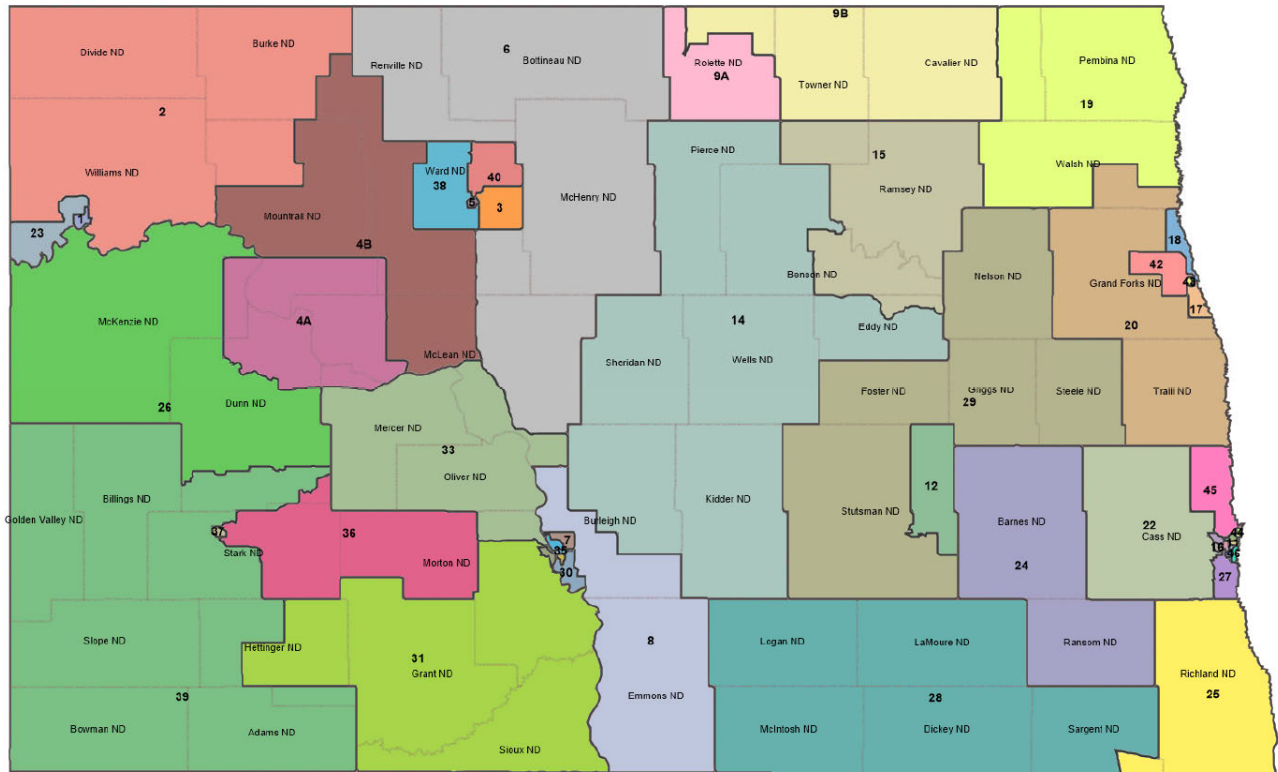
1993-2002 North Dakota Legislative Plan



C. Communities of Interest

Dr. Hood next discusses communities of interest, but narrowly addresses that concept to discuss only county splits. He reports that enacted LD-9 has just one county split. But that's not true. As the map below shows, the senate version of LD-9 splits two counties (Towner and Cavalier), while the state house version splits three counties (Rolette, Towner, and Cavalier). The enacted legislative map shown below is included as Appendix E.

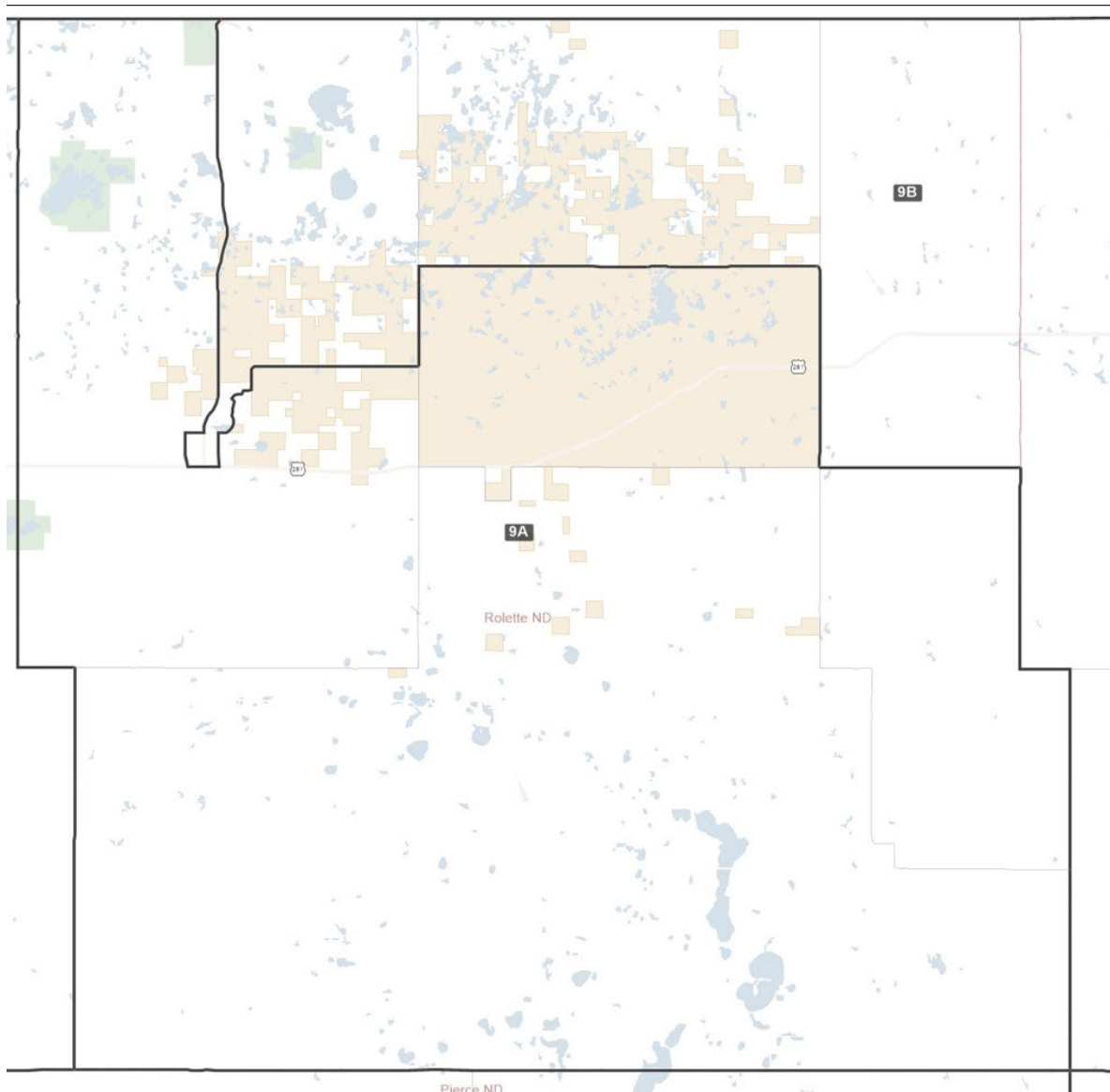
2021 Enacted North Dakota Legislative Plan



Dr. Hood correctly notes that Plaintiffs' Demonstrative Plan 1 contains 1 whole county (Benson) and three partial counties (Rolette, Pierce, and Eddy). But he fails to note that this is the exact same number of whole and partial counties as enacted LD-15, which Plaintiffs also challenge (Ramsey County whole, and parts of Benson, Eddy, and Towner Counties). Moreover, he fails to note that Plaintiffs' demonstrative LD-9 only splits Eddy County to adhere to the border of the Spirit Lake reservation—one of the legislature's stated redistricting criteria—and the same exact Eddy County split that enacted LD-15 makes.

Dr. Hood's narrow focus on county splits for communities of interest ignores other communities of interest. For example, the legislature recognizes the importance of tribal boundaries as political and governmental units. Enacted LD-9 splits the Turtle Mountain reservation from much of its off-reservation trust lands—which Plaintiffs' demonstrative Plan LD-9 does not do—as shown below.

Enacted LD-9 Split of Turtle Mountain Reservation and Trust Lands

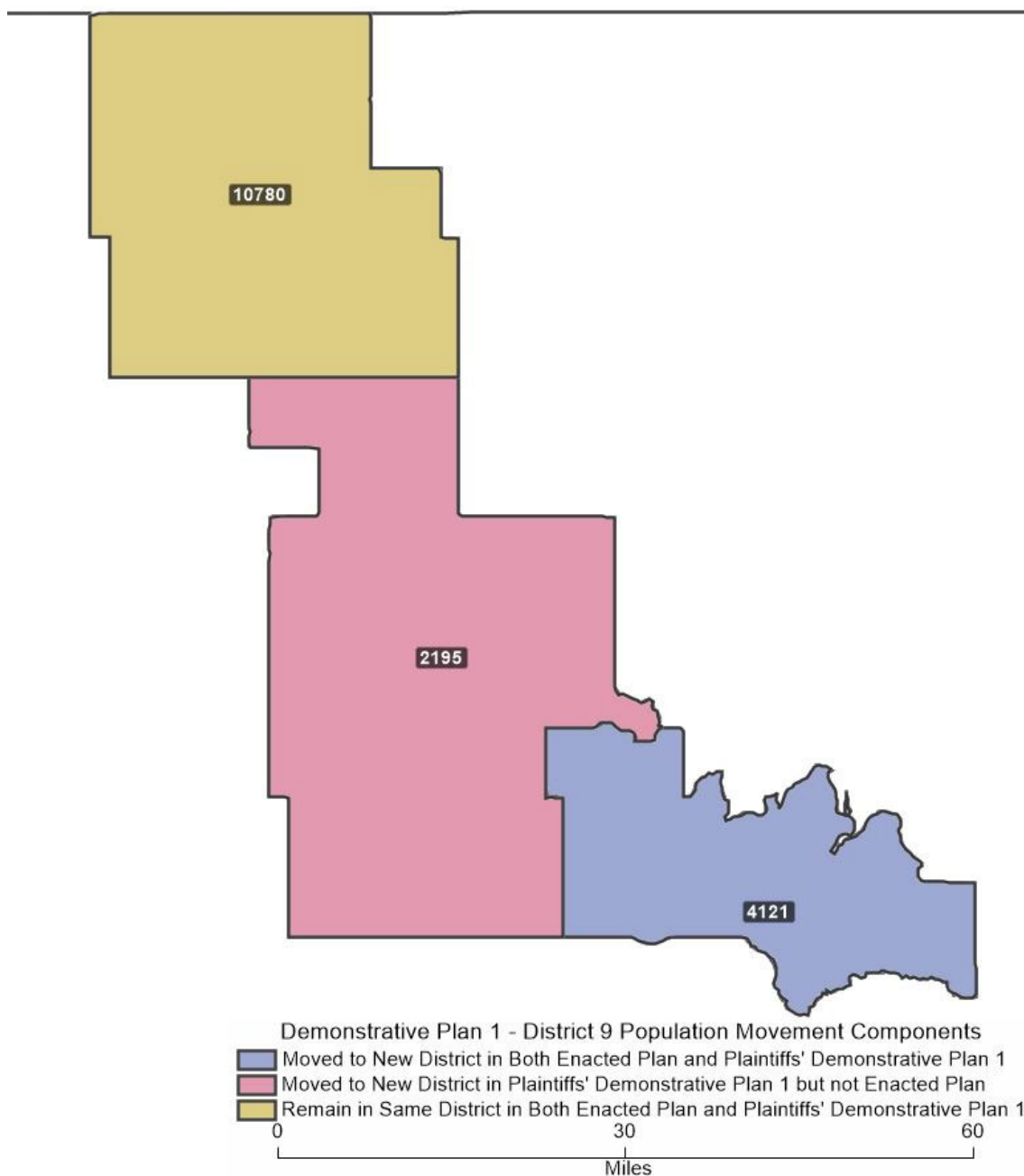


D. Core Retention

Dr. Hood notes that in enacted LD-9, 75% of its population comes from the prior decade's version of LD-9, while in Plaintiffs' Demonstrative Plan 1 LD-9, that figure is 63%. But 63% core retention is not particularly low. Indeed, that would place its core retention higher than 8 other districts in the enacted plan. Moreover, this is an overly simplistic calculation. The more salient question is how much additional disturbance to actual voters would Plaintiffs' demonstrative plan cause compared to the enacted plan. The map below shows the total population of three segments of Plaintiffs' Demonstrative Plan 1 LD-9: (1) 10,780 residents of Rolette County (shown in yellow) who were in LD-9 in the 2011-2020 plan and remain in LD-9 in Plaintiffs' demonstrative plan, (2) 2,195 Pierce and Benson County residents shown in pink who remained in their same district (LD-14) in both the enacted and the 2011-2020 plan, and (3) 4,121 Benson and Eddy County residents who were

moved to a new district in the state's enacted plan (LD-23 to LD-15) and would be moved to a new district (LD-9) in Plaintiffs' demonstrative plan.

Population Movement and Stasis in Plaintiffs' Demonstrative Plan 1 LD-9



As this map illustrates, of the 17,096 people in Plaintiffs' Demonstrative Plan 1 LD-9, only 13% would be newly moved in the plan compared to the enacted plan's alterations. On the

other hand, 87% of the people in Plaintiffs' demonstrative LD-9 either remain in the same district or were themselves moved to a new district by the legislature's enacted plan.

Moreover, Dr. Hood notes that having a higher "core retention" figure is an indicator of incumbency protection, which he labels a traditional districting criteria. It is noteworthy, therefore, that the incumbent Native American state senator, Richard Marcellais, lost reelection.

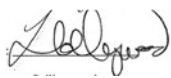
Conclusion

In the most probative elections—the endogenous, the most recent, and those involving Native American candidates—there is a clear pattern of white bloc voting usually defeating Native American preferred candidates. When Dr. Hood's analysis is adjusted to focus on the correct districts—even without properly weighing according to probative value—there is a clear Gingles III pattern. Moreover, there is striking data supporting the exclusion or granting of little weight to the 2018 elections.

Dr. Hood's conclusion that LD-15 fails to satisfy Gingles 1 misapprehends to the purpose of Gingles I, which focuses on an alternative possible district. Plaintiffs' demonstration plans satisfy Gingles I.

Dr. Hood's analysis of traditional districting principles is flawed. A comparison of Plaintiffs' Demonstrative Plan I LD-9 to other districts in the enacted plan and to other districts the Supreme Court has approved as reasonably compact easily demonstrates that Plaintiffs' demonstrative plans satisfy traditional redistricting principles and the demonstrative LD-9 is reasonably compact.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.



Loren Collingwood, 2/16/2023

References

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M.V. Hood III, Peter A. Morrison, & Thomas M. Bryan, *From Legal Theory to Practical Application: A How-To for Performing Vote Dilution Analysis*, Social Science Quarterly, Vol. 99, No. 2 (2018).

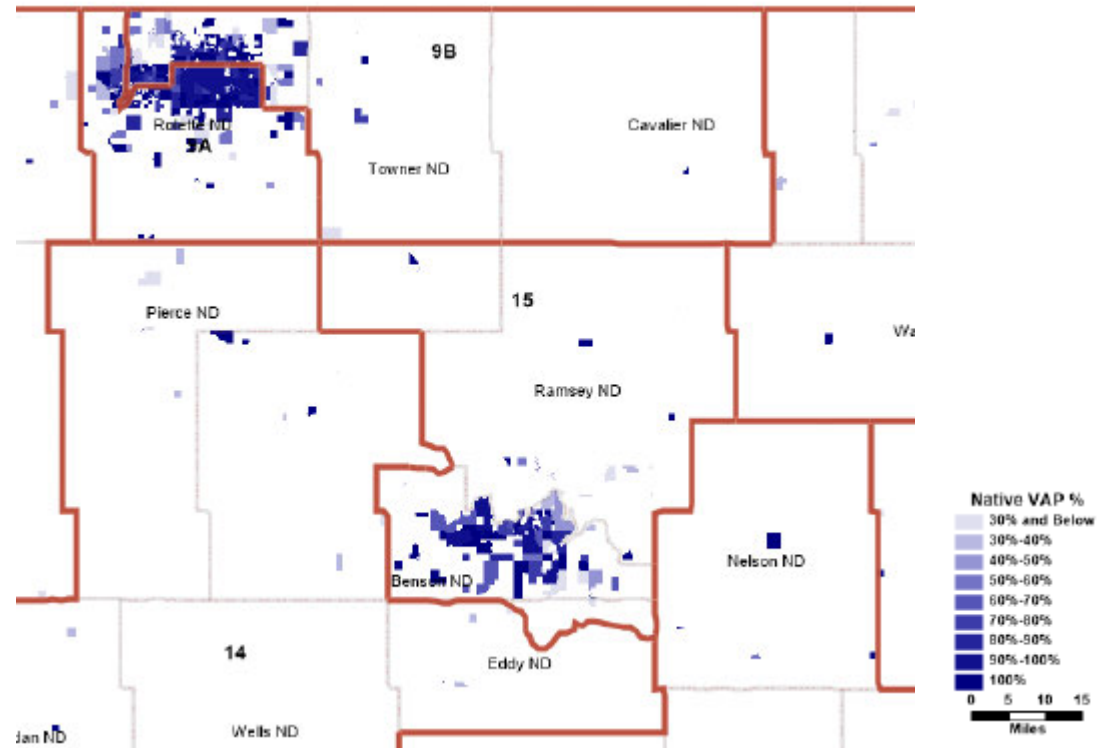
N.D. Legislature, <http://www.ndlegis.gov/files/resource/library/dakota-lawmakers.pdf>; <https://ndlegis.gov/biography/dennis-bercier>; <https://www.ndlegis.gov/biography/les-j-laountain/>; <https://www.metismuseum.ca/resource.php/14232>

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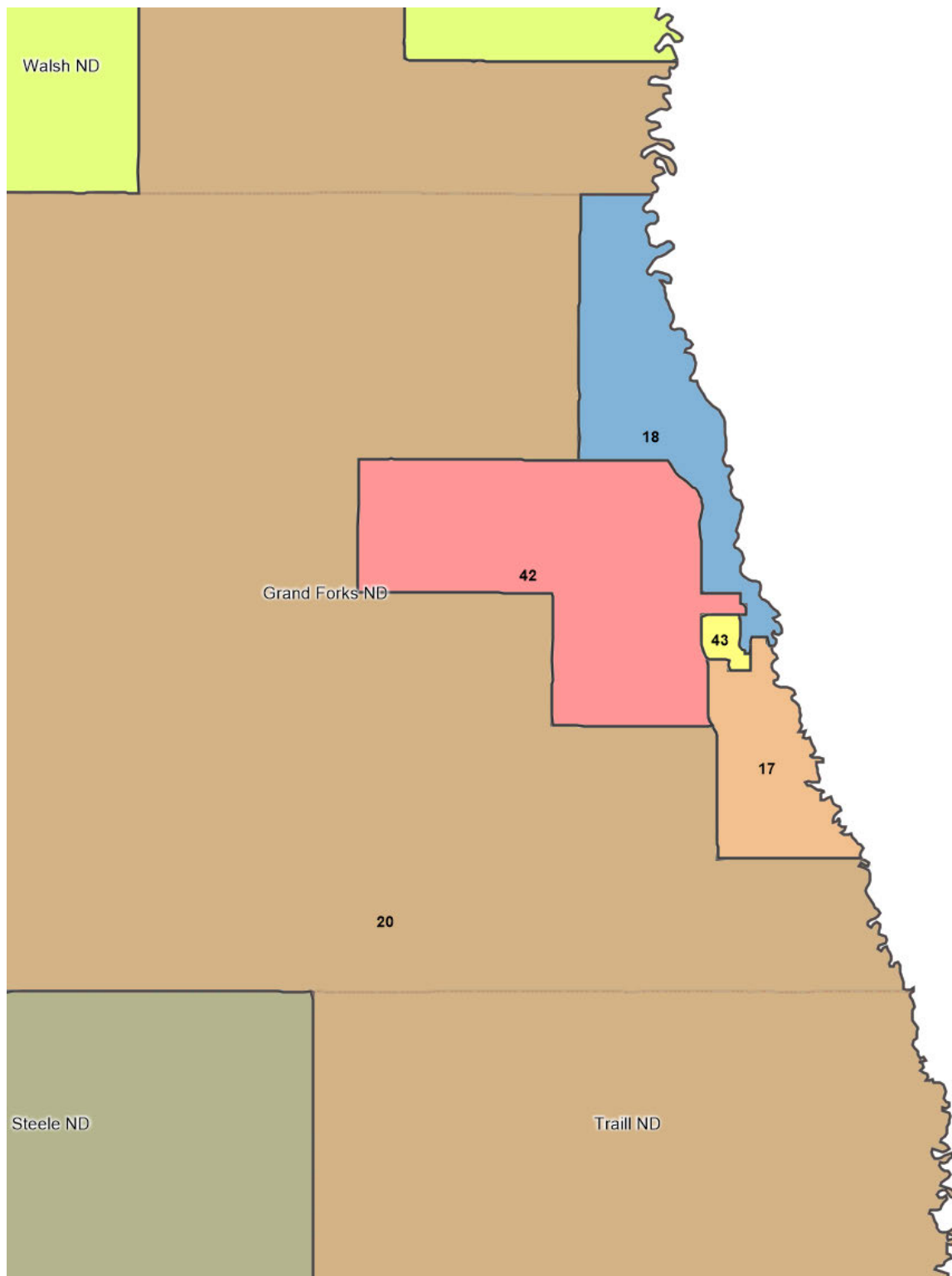
APPENDIX A

2021 Enacted Plan – Northeastern North Dakota Native American VAP Shading



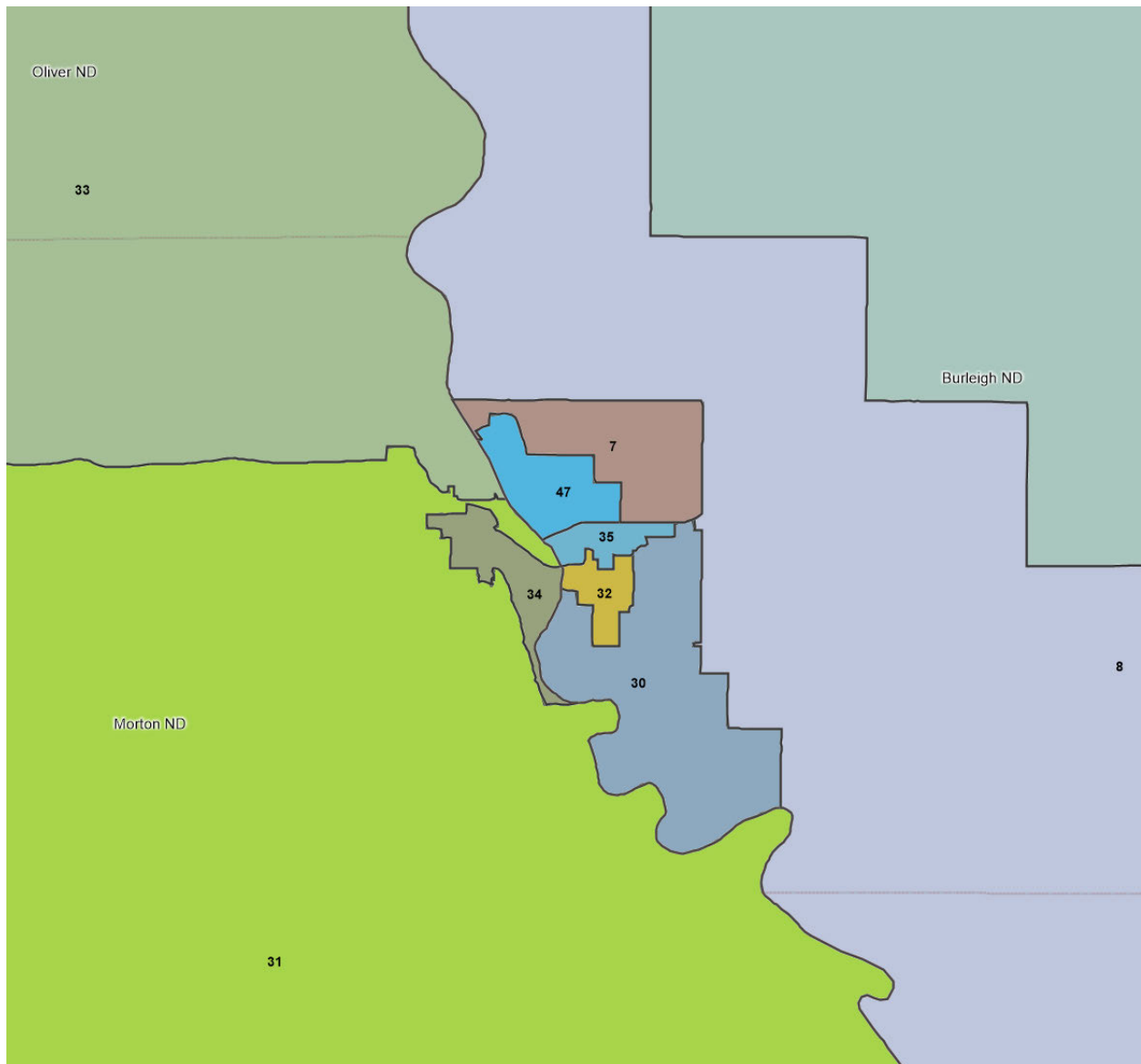
APPENDIX B

2021 ENACTED ND LEGISLATIVE PLAN GRAND FORKS CLOSE-UP VIEW



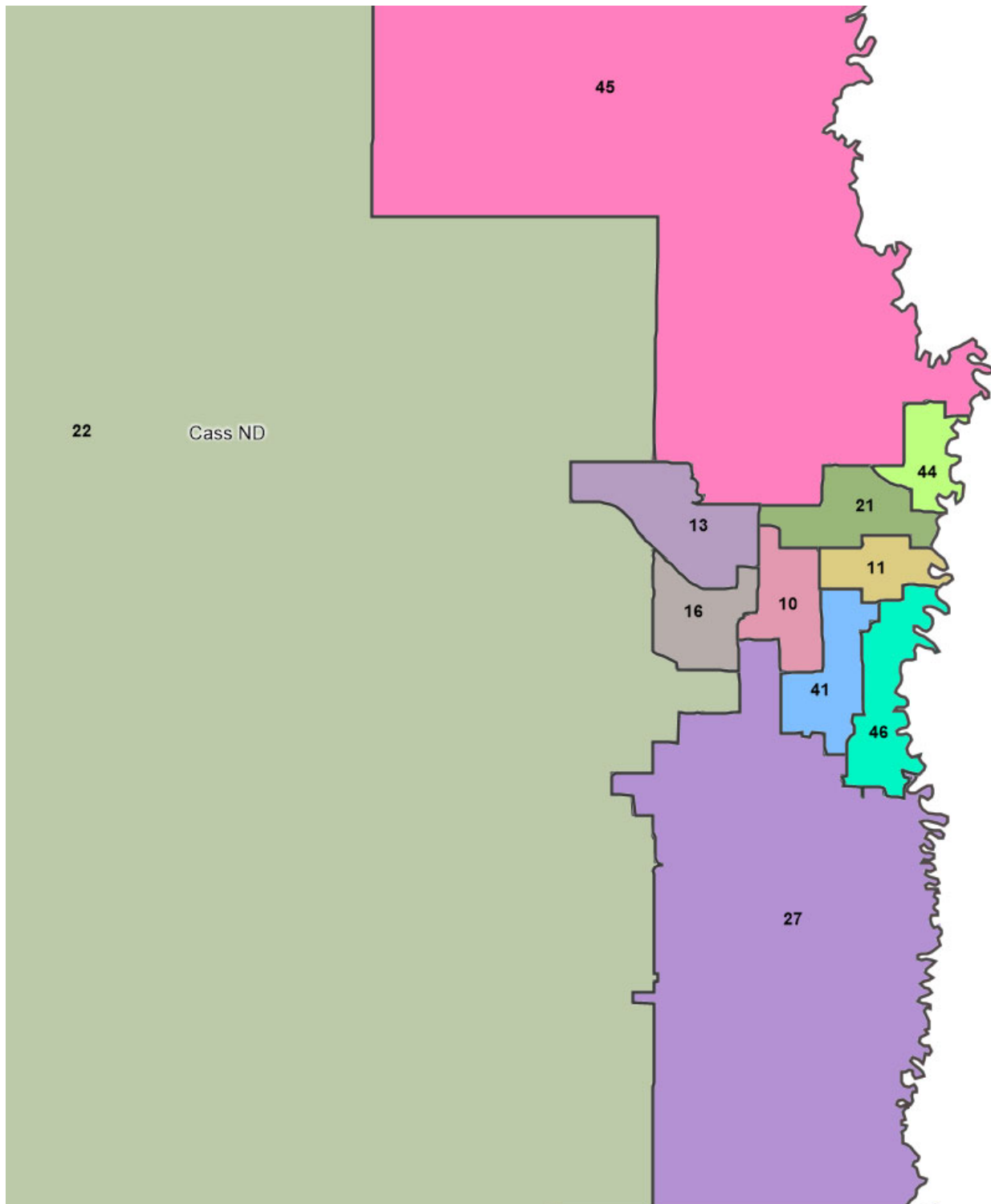
APPENDIX C

2021 ENACTED ND LEGISLATIVE PLAN BISMARCK AREA CLOSE-UP VIEW



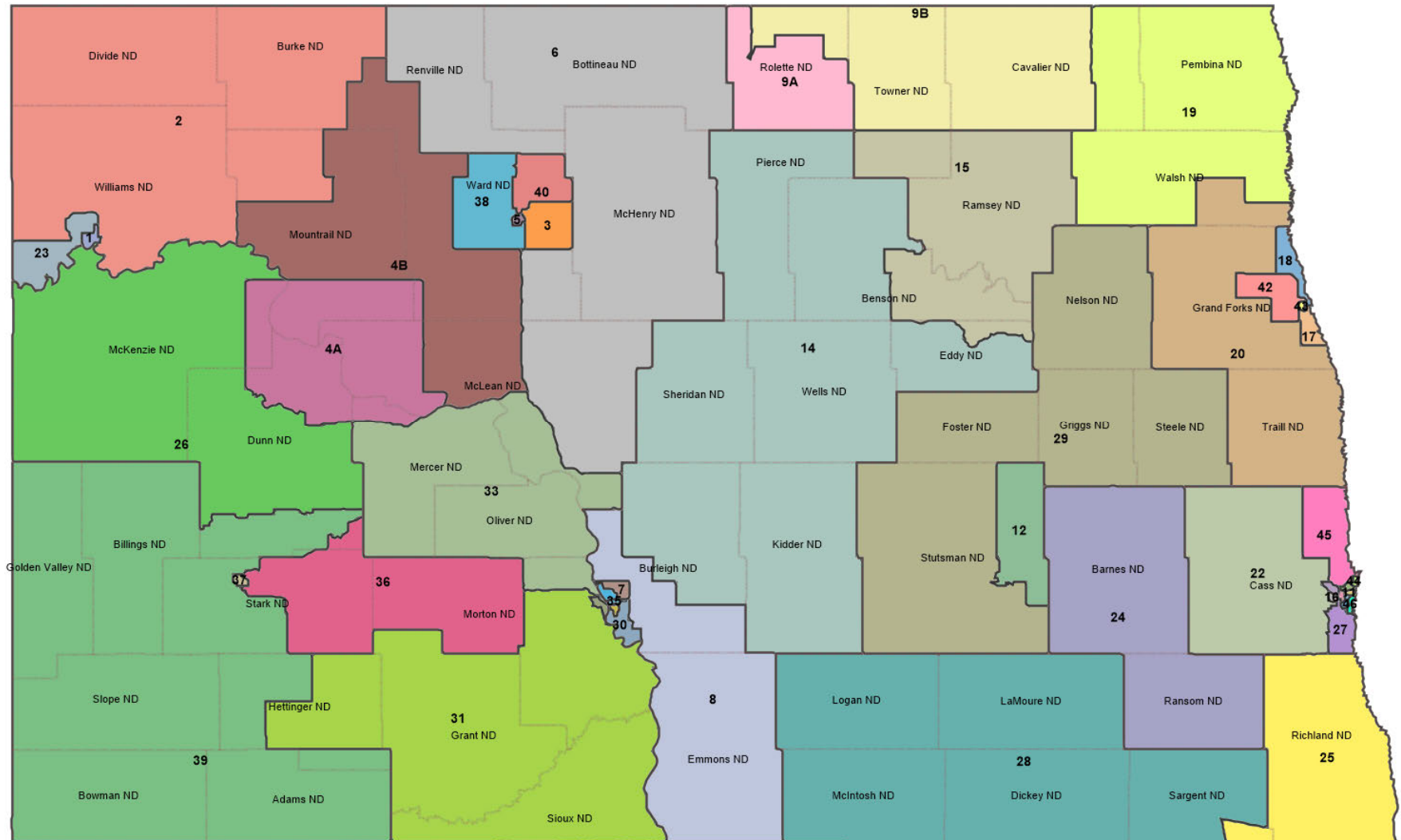
APPENDIX D

2021 ENACTED ND LEGISLATIVE PLAN FARGO CLOSE-UP VIEW



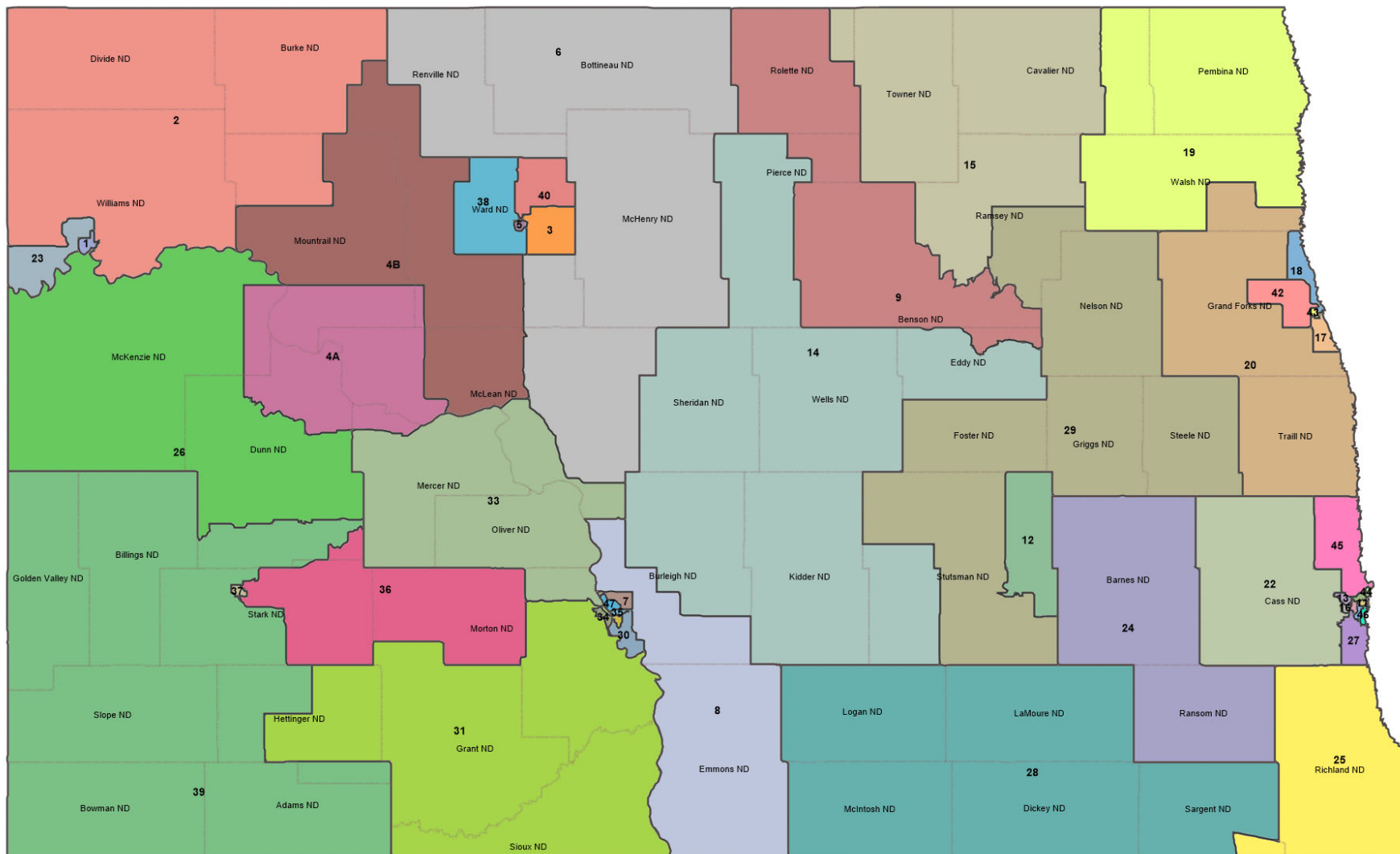
APPENDIX E

2021 ENACTED STATE LEGISLATIVE PLAN



APPENDIX F

PLAINTIFFS' DEMONSTRATIVE PLAN 1



APPENDIX G

2012-2020 LEGISLATIVE PLAN

